

## 250W, Encapsulated DC/DC Converter for Heavy Duty Applications PDC 250 Series



- Rugged, field-proven design
- Fully encapsulation
- Conduction cooling
- Full electronic protection
- Wide temperature range
- Wide input ranges

The PDC 250 Series fully encapsulated industrial quality DC/DC converter uses field-proven technology to generate up to 250W output power. It has an excellent track record in numerous heavy-duty applications. The unit is entirely potted with a thermally conductive MIL-grade silicon rubber compound to increase resistance to shock, vibration and humidity. Cooling is via base plate by conduction. The unit is designed for continuous operation at 70°C with installation on an appropriate size heat-sinking surface. It has full electronic protection. Low component count, large design headroom, and the use of components with established reliability result in high MTBF. The unit is suitable for transportation, mining, oilrigs, military and other heavy-duty applications. The unit is manufactured at our plant under strict quality control. Versions that comply with EN 50155 railway specifications are available.

### SPECIFICATIONS

<p><b>Input Voltage</b> 24Vdc (21V – 30V) 48Vdc (42 – 60V) 125Vdc (95 - 140V) Consult factory for other voltages and ranges, including for railway</p> <p><b>Input Protection</b> Inrush current limiting Varistor Internal safety fuse Lower voltage than the specified minimum input will not damage the unit</p> <p><b>Isolation</b> According to input/output voltage, but minimum of: 1000VDC input to chassis 1500VDC input to output 500VDC output to chassis</p> <p><b>Standards</b> Designed to meet EN60950 and related standards.</p> <p><b>EMI</b> EN 55022 Class A as a minimum</p> <p><b>Switching Frequency</b> 55kHz +/- 3kHz</p>	<p><b>Output Voltages</b> 12Vdc/20A, 24Vdc/10A, 36Vdc/17A or 48Vdc/5A, 72Vdc/3.3A Consult factory for other voltages</p> <p><b>Line/Load Regulation</b> +/-1% combined from zero load to full load, including separation diode</p> <p><b>Dynamic Response</b> Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time</p> <p><b>Output Ripple / Noise</b> Better than 1% of output voltage peak to peak or 0.2% Vrms (20MHz BW)</p> <p><b>Output Overload Protection</b> Rectangular current limiting with short-circuit protection (no hiccup) Thermal shutdown in case of insufficient cooling (self resetting)</p> <p><b>Output Overvoltage Protection</b> Second regulator loop, completely stable and independent of main regulator loop</p>	<p><b>Efficiency</b> Min. 80% at full load</p> <p><b>Operating Temperature Range</b> -40 to 70°C cold plate temperature for full specification</p> <p><b>Temperature Drift</b> 0.03% per °C over operating temperature range</p> <p><b>Cooling</b> Conduction cooling via base plate to customer chassis or heat-sink (cold plate)</p> <p><b>Environmental Protection</b> Full encapsulation with thermally conductive silicon potting compound with UL94V-0 flammability rating.</p> <p><b>Shock/Vibration</b> IEC 61373 Cat 1 A&amp;B</p> <p><b>Humidity</b> 5 - 95% non-condensing</p> <p><b>MTBF</b> 150,000 hours @ 45°C Demonstrated MTBF is significantly higher</p>	<p><b>Indicators</b> None</p> <p><b>Control Input</b> None</p> <p><b>Alarm Output</b> None</p> <p><b>Dimensions</b> P59: 108 x 70 x 191 mm (4.3" x 2.8" x 7.5") including terminal block and flanges</p> <p><b>Weight</b> 1.5 kg (3.2 lbs.)</p> <p><b>Connections</b> 9-pole barrier-type terminal block, 3/8" spacing</p> <p><b>RoHS Compliance</b> According to requirements</p> <p><b>Warranty</b> Two years subject to application within good engineering practice</p>
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Enhancements to these general specifications can be accommodated upon request. Specifications are subject to change.

*Designer and manufacturer of quality converters, inverters, UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. Absopulse is a BABT-approved Facility*



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